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1   Abstract of the Disclosure

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3   The invention provides a method and system for packet processing, in

4   which a router (or switch) is capable of quickly processing incoming packets, thus per-

5   forming level 2, 3, and 4 routing and additional services, in real time. A system includes

6   a packet processing engine (PPE), having elements for receiving packets, distinguishing

7   header and payload information for those packets, outsourcing router decision-making to

8   additional hardware resources such as a fast forwarding engine (FFE), and forwarding

9   those packets. The PPE is synchronized to the FFE, so that the PPE can send and the FFE

10   can receive packets at each one of a sequence of constant-duration time quanta. Simi-

11   larly, the PPE can receive and the FFE can send packet routing information at each one of

12   a sequence of similar time quanta. The PPE and the FFE have separate hardware so that

13   their functions can be performed in parallel without contention for operating resources.